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Met Tyr Glu Asp Phe His Glu Leu
1 5

ttt cag cgt ttg gat ttt gat aat gat ggc atg gtg gaa gca gat gac 159
Phe Gln Arg Leu Asp Phe Asp Asn Asp Gly Met Val Glu Ala Asp Asp
10 15 20

tta cgc agc tta atg ttt tgt gat ttc cat gat ccc aag agg gag gat 207
Leu Arg Ser Leu Met Phe Cys Asp Phe His Asp Pro Lys Arg Glu Asp
25 30 35 40

acc aac tac aga gaa atc gca gat gtg gat aat ctt cga atg ata gta 255
Thr Asn Tyr Arg Glu Ile Ala Asp Val Asp Asn Leu Arg Met Ile Val
45 50 55

gaa att cac cta gaa gaa tac aac aat ata agc aaa aaa ccc atg aac 303
Glu Ile His Leu Glu Glu Tyr Asn Asn Ile Ser Lys Lys Pro Met Asn
60 65 70

ctt gtc ttg ttt cga ttt gcc ata gag cac atc agc aga att tcc agg 351
Leu Val Leu Phe Arg Phe Ala Ile Glu His Ile Ser Arg Ile Ser Arg
75 80 85

atc ctg aag cag cct cgc agc cat gct ctc cta gta ggg gtt gga ggg 399
Ile Leu Lys Gln Pro Arg Ser His Ala Leu Leu Val Gly Val Gly Gly
90 95 100

agt gga agg cag tct gtc acc aga tta gct gcc cac atg gct gat tat 447
Ser Gly Arg Gln Ser Val Thr Arg Leu Ala Ala His Met Ala Asp Tyr
105 110 115 120

tca gtt ttc caa gtt gaa atc tct aag ggg tat gat act act gaa tgg 495
Ser Val Phe Gln Val Glu Ile Ser Lys Gly Tyr Asp Thr Thr Glu Trp

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                125                 130                 135

cat gaa gat tta aaa gtg atc tta agg aaa tgt gcg gaa gat act caa      543
His Glu Asp Leu Lys Val Ile Leu Arg Lys Cys Ala Glu Asp Thr Gln
            140                 145                 150

att aaa gaa gag tct ttt ctg gaa gat gtc agt aat ctg cta aat gct      591
Ile Lys Glu Glu Ser Phe Leu Glu Asp Val Ser Asn Leu Leu Asn Ala
        155                 160                 165

ggg gag att cca aat ctc ttt gca tta gat gag aag caa gag ata tgt      639
Gly Glu Ile Pro Asn Leu Phe Ala Leu Asp Glu Lys Gln Glu Ile Cys
    170                 175                 180

gat aag atg cgt cag tta gat cgc cag cgg gat aaa acc aag caa aca      687
Asp Lys Met Arg Gln Leu Asp Arg Gln Arg Asp Lys Thr Lys Gln Thr
185                 190                 195                 200

gat ggc agc ccc ata gcc ctt ttc aac atg ttt att gat cat tgc cgc      735
Asp Gly Ser Pro Ile Ala Leu Phe Asn Met Phe Ile Asp His Cys Arg
                205                 210                 215

agc caa ctg cat gtg gtc ctt gcc atg agt ccc att gga gat gca ttt      783
Ser Gln Leu His Val Val Leu Ala Met Ser Pro Ile Gly Asp Ala Phe
            220                 225                 230

cgg aat cgt ctt aga aag ttc cct gct ctt gtt aac tgc tgt acc att      831
Arg Asn Arg Leu Arg Lys Phe Pro Ala Leu Val Asn Cys Cys Thr Ile
        235                 240                 245

gac tgg ttt cag tca tgg cct gaa gat gca ctc cag gca gtt gcc tca      879
Asp Trp Phe Gln Ser Trp Pro Glu Asp Ala Leu Gln Ala Val Ala Ser
    250                 255                 260

cga ttc ttg gaa gaa att gaa atg tca gag gaa ata cga gat ggc tgt      927
Arg Phe Leu Glu Glu Ile Glu Met Ser Glu Glu Ile Arg Asp Gly Cys
265                 270                 275                 280

atc gac atg tgt aaa agc ttc cac act tct act ata gat tta tcc aaa      975
Ile Asp Met Cys Lys Ser Phe His Thr Ser Thr Ile Asp Leu Ser Lys
                285                 290                 295

tct ttc ttt gtt gaa ctt caa aga tac aat tat gtg act cct acc tct     1023
Ser Phe Phe Val Glu Leu Gln Arg Tyr Asn Tyr Val Thr Pro Thr Ser
            300                 305                 310

tac ctc gaa tta atc tcc acc ttc aaa ctg ttg tta gaa aag aaa aga     1071
Tyr Leu Glu Leu Ile Ser Thr Phe Lys Leu Leu Leu Glu Lys Lys Arg
        315                 320                 325

agt gaa gta atg aaa atg aaa aag aga tat gaa gtg ggt ttg gag aaa     1119
Ser Glu Val Met Lys Met Lys Lys Arg Tyr Glu Val Gly Leu Glu Lys
    330                 335                 340

ctg gat tct gct tca tct caa gta gcc aca atg cag atg gag ttg gag     1167
Leu Asp Ser Ala Ser Ser Gln Val Ala Thr Met Gln Met Glu Leu Glu
345                 350                 355                 360
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gca cta cat cct caa tta aaa gtt gct agc aaa gag gtt gat gaa atg     1215
Ala Leu His Pro Gln Leu Lys Val Ala Ser Lys Glu Val Asp Glu Met
                365                 370                 375

atg ata atg att gag aaa gag tct gta gaa gtt gcc aaa act gaa aaa     1263
Met Ile Met Ile Glu Lys Glu Ser Val Glu Val Ala Lys Thr Glu Lys
            380                 385                 390

ata gtg aaa gct gat gaa aca ata gcg aat gaa caa gct atg gct tcc     1311
Ile Val Lys Ala Asp Glu Thr Ile Ala Asn Glu Gln Ala Met Ala Ser
        395                 400                 405

aaa gcc atc aaa gat gag tgc gat gct gac ctg gca ggt gcc ttg cca     1359
Lys Ala Ile Lys Asp Glu Cys Asp Ala Asp Leu Ala Gly Ala Leu Pro
    410                 415                 420

ata tta gag tca gca ctg gcc gcc ctt gat act ctt act gca cag gat     1407
Ile Leu Glu Ser Ala Leu Ala Ala Leu Asp Thr Leu Thr Ala Gln Asp
425                 430                 435                 440

att aca gtg gta aaa tcc atg aag agt cct cct gct ggt gtc aag ctt     1455
Ile Thr Val Val Lys Ser Met Lys Ser Pro Pro Ala Gly Val Lys Leu
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gtt atg gaa gct ata tgc atc ttg aaa gga atc aaa gct gac aaa atc     1503
Val Met Glu Ala Ile Cys Ile Leu Lys Gly Ile Lys Ala Asp Lys Ile
            460                 465                 470

cct gac cca aca ggt tca ggg aaa aaa att gag gat ttc tgg ggc cca     1551
Pro Asp Pro Thr Gly Ser Gly Lys Lys Ile Glu Asp Phe Trp Gly Pro
        475                 480                 485

gct aag aga ctt ctt ggt gac atg agg ttt ctg cag tca ctt cat gaa     1599
Ala Lys Arg Leu Leu Gly Asp Met Arg Phe Leu Gln Ser Leu His Glu
    490                 495                 500

tat gac aag gac aat att cct cca gct tat atg aat atc ata aga aaa     1647
Tyr Asp Lys Asp Asn Ile Pro Pro Ala Tyr Met Asn Ile Ile Arg Lys
505                 510                 515                 520

aat tat att cca aat cca gat ttt gta cca gaa aaa atc aga aat gct     1695
Asn Tyr Ile Pro Asn Pro Asp Phe Val Pro Glu Lys Ile Arg Asn Ala
                525                 530                 535

tct aca gcg gcc gaa ggt ctg tgc aaa tgg gtc ata gca atg gat tca     1743
Ser Thr Ala Ala Glu Gly Leu Cys Lys Trp Val Ile Ala Met Asp Ser
            540                 545                 550

tat gat aaa gtg gca aaa ata gta gct ccc aaa aag ata aaa ctg gct     1791
Tyr Asp Lys Val Ala Lys Ile Val Ala Pro Lys Lys Ile Lys Leu Ala
        555                 560                 565

gca gct gaa ggg gag ctt aaa att gcc atg gat ggt ctt aga aag aag     1839
Ala Ala Glu Gly Glu Leu Lys Ile Ala Met Asp Gly Leu Arg Lys Lys
    570                 575                 580
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cag gca gcc ctt aag gaa gtt cag gac aag ctg gcc agg ctt caa gac     1887
Gln Ala Ala Leu Lys Glu Val Gln Asp Lys Leu Ala Arg Leu Gln Asp
585                 590                 595                 600

aca ctt gaa tta aat aaa caa aag aag gct gac ctg gaa aac cag gtt     1935
Thr Leu Glu Leu Asn Lys Gln Lys Lys Ala Asp Leu Glu Asn Gln Val
                605                 610                 615

gac ctt tgc agc aaa aaa cta gaa cga gct gaa cag ttg att gga ggc     1983
Asp Leu Cys Ser Lys Lys Leu Glu Arg Ala Glu Gln Leu Ile Gly Gly
            620                 625                 630

ctt gga ggt gag aaa act cga tgg agc cac aca gct ctg gag cta ggt     2031
Leu Gly Gly Glu Lys Thr Arg Trp Ser His Thr Ala Leu Glu Leu Gly
        635                 640                 645

cag ctg tac atc aac ttg act ggg gat atc ctc att tcc tcc gga gtg     2079
Gln Leu Tyr Ile Asn Leu Thr Gly Asp Ile Leu Ile Ser Ser Gly Val
    650                 655                 660

gtt gct tac ctc gga gcc ttc aca tcc acc tat aga cag aat caa act     2127
Val Ala Tyr Leu Gly Ala Phe Thr Ser Thr Tyr Arg Gln Asn Gln Thr
665                 670                 675                 680

aaa gag tgg aca act ttg tgc aaa gga aga gat atc ccc tgc tca gat     2175
Lys Glu Trp Thr Thr Leu Cys Lys Gly Arg Asp Ile Pro Cys Ser Asp
                685                 690                 695

gat tgc tct ctt atg ggt acc ctg gga gaa gct gtg aca att cga act     2223
Asp Cys Ser Leu Met Gly Thr Leu Gly Glu Ala Val Thr Ile Arg Thr
            700                 705                 710

tgg aat att gct gga tta cct tct gac tca ttt tcc att gat aat ggg     2271
Trp Asn Ile Ala Gly Leu Pro Ser Asp Ser Phe Ser Ile Asp Asn Gly
        715                 720                 725

ata atc ata atg aat gca aga agg tgg cct ctg atg ata gat cct caa     2319
Ile Ile Ile Met Asn Ala Arg Arg Trp Pro Leu Met Ile Asp Pro Gln
    730                 735                 740

agt cag gct aat aaa tgg atc aag aac atg gaa aaa gcc aat agt ctt     2367
Ser Gln Ala Asn Lys Trp Ile Lys Asn Met Glu Lys Ala Asn Ser Leu
745                 750                 755                 760

tat gtg att aaa ctt agt gaa cct gac tat gtc agg act ctg gaa aat     2415
Tyr Val Ile Lys Leu Ser Glu Pro Asp Tyr Val Arg Thr Leu Glu Asn
                765                 770                 775

tgc atc cag ttt ggt act cct gtg ttg cta gaa aat gtt ggc gaa gaa     2463
Cys Ile Gln Phe Gly Thr Pro Val Leu Leu Glu Asn Val Gly Glu Glu
            780                 785                 790

cta gat cct att ttg gaa cct ctt cta cta aaa caa acc ttt aag cag     2511
Leu Asp Pro Ile Leu Glu Pro Leu Leu Leu Lys Gln Thr Phe Lys Gln
        795                 800                 805

ggt ggg agt aca tgt atc cgg ctt ggg gac tcc aca att gaa tat gca     2559
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Gly Gly Ser Thr Cys Ile Arg Leu Gly Asp Ser Thr Ile Glu Tyr Ala
    810                 815                 820

cct gac ttc cgc ttc tat att act acc aag tta aga aat cct cat tat     2607
Pro Asp Phe Arg Phe Tyr Ile Thr Thr Lys Leu Arg Asn Pro His Tyr
825                 830                 835                 840

ctt cct gaa aca tca gta aag gta aca tta tta aac ttc atg ata acc     2655
Leu Pro Glu Thr Ser Val Lys Val Thr Leu Leu Asn Phe Met Ile Thr
                845                 850                 855

cct gag gga atg caa gat cag ctt ctg gga att gtg gtg gca caa gaa     2703
Pro Glu Gly Met Gln Asp Gln Leu Leu Gly Ile Val Val Ala Gln Glu
            860                 865                 870

agg cca gac ctt gaa gaa gaa aag caa gcc ttg ata tta caa gga gct     2751
Arg Pro Asp Leu Glu Glu Glu Lys Gln Ala Leu Ile Leu Gln Gly Ala
        875                 880                 885

gaa aat aaa agg cag tta aaa gaa ata gaa gac aag att tta gaa gtt     2799
Glu Asn Lys Arg Gln Leu Lys Glu Ile Glu Asp Lys Ile Leu Glu Val
    890                 895                 900

ctt tca tct tcg gaa ggc aat ata tta gaa gat gaa act gct att aag     2847
Leu Ser Ser Ser Glu Gly Asn Ile Leu Glu Asp Glu Thr Ala Ile Lys
905                 910                 915                 920

ata tta tct tcc tcc aag gcc ttg gct aat gag att tct cag aag cag     2895
Ile Leu Ser Ser Ser Lys Ala Leu Ala Asn Glu Ile Ser Gln Lys Gln
                925                 930                 935

gaa gta gcc gaa gag aca gag aaa aag att gac acc acc cgc atg ggc     2943
Glu Val Ala Glu Glu Thr Glu Lys Lys Ile Asp Thr Thr Arg Met Gly
            940                 945                 950

tat cgt cct att gcc atc cat tct tcc atc cta ttt ttt tct ctt gct     2991
Tyr Arg Pro Ile Ala Ile His Ser Ser Ile Leu Phe Phe Ser Leu Ala
        955                 960                 965

gat tta gcc aac att gag ccc atg tac cag tat tca ctg acc tgg ttt     3039
Asp Leu Ala Asn Ile Glu Pro Met Tyr Gln Tyr Ser Leu Thr Trp Phe
    970                 975                 980

att aac ctt ttc atc ctg tct att gaa aat tca gag aaa tca gaa att     3087
Ile Asn Leu Phe Ile Leu Ser Ile Glu Asn Ser Glu Lys Ser Glu Ile
985                 990                 995                1000

ttg gca aaa agg ctt cag att ctc aag gat cac ttt act tat tca ctg     3135
Leu Ala Lys Arg Leu Gln Ile Leu Lys Asp His Phe Thr Tyr Ser Leu
               1005                1010                1015

tat gtt aat gtc tgc cgg tca ctc ttt gaa aag gat aag ctg ctc ttt     3183
Tyr Val Asn Val Cys Arg Ser Leu Phe Glu Lys Asp Lys Leu Leu Phe
           1020                1025                1030

tcc ttt tgt cta acc ata aat cta ctg ctg cat gag cgg gcg att aat     3231
Ser Phe Cys Leu Thr Ile Asn Leu Leu Leu His Glu Arg Ala Ile Asn
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        1035                1040                1045

 aaa gct gag tgg aga ttt ctg cta act ggt ggc att gga ctg gat aat     3279
 Lys Ala Glu Trp Arg Phe Leu Leu Thr Gly Gly Ile Gly Leu Asp Asn
    1050                1055                1060

 cct tat gcc aac cct tgt aca tgg ctt cct cag aaa tcc tgg gat gaa     3327
 Pro Tyr Ala Asn Pro Cys Thr Trp Leu Pro Gln Lys Ser Trp Asp Glu
1065                1070                1075                1080

 ata tgt cga tta gat gat ttg cct gcc ttc aaa acc att cgt aga gag     3375
 Ile Cys Arg Leu Asp Asp Leu Pro Ala Phe Lys Thr Ile Arg Arg Glu
                1085                1090                1095

 ttt atg cgc tta aag gat gga tgg aag aaa gta tat gat agt ttg gaa     3423
 Phe Met Arg Leu Lys Asp Gly Trp Lys Lys Val Tyr Asp Ser Leu Glu
            1100                1105                1110

 cca cac cat gag gtt ttc cct gaa gaa tgg gaa gat aaa gca aat gag     3471
 Pro His His Glu Val Phe Pro Glu Glu Trp Glu Asp Lys Ala Asn Glu
        1115                1120                1125

 ttt caa agg atg ctt att att cgt tgc ttg agg cca gac aag gtt att     3519
 Phe Gln Arg Met Leu Ile Ile Arg Cys Leu Arg Pro Asp Lys Val Ile
    1130                1135                1140

 cca atg ttg cag gaa ttt ata atc aac aga ttg gga cgt gca ttc att     3567
 Pro Met Leu Gln Glu Phe Ile Ile Asn Arg Leu Gly Arg Ala Phe Ile
1145                1150                1155                1160

 gaa cca ccc ccc ttt gat tta gcc aag gca ttt gga gac agt aac tgc     3615
 Glu Pro Pro Pro Phe Asp Leu Ala Lys Ala Phe Gly Asp Ser Asn Cys
                1165                1170                1175

 tgt gca cca ctg att ttc gtg ctc tct cct gga gca gat ccc atg gct     3663
 Cys Ala Pro Leu Ile Phe Val Leu Ser Pro Gly Ala Asp Pro Met Ala
            1180                1185                1190

 gcc ctt cta aaa ttt gct gat gac cag gga tat ggg gga tca aaa ctt     3711
 Ala Leu Leu Lys Phe Ala Asp Asp Gln Gly Tyr Gly Gly Ser Lys Leu
        1195                1200                1205

 agc tct tta tct ctt ggt caa ggc caa ggg ccc att gct atg aag atg     3759
 Ser Ser Leu Ser Leu Gly Gln Gly Gln Gly Pro Ile Ala Met Lys Met
    1210                1215                1220

 tta gaa aaa gct gtc aag gaa gga aca tgg gtt gtt ctt cag aat tgt     3807
 Leu Glu Lys Ala Val Lys Glu Gly Thr Trp Val Val Leu Gln Asn Cys
1225                1230                1235                1240

 cac ctt gcc acc tct tgg atg cca acc ctt gag aaa gtc tgt gag gag     3855
 His Leu Ala Thr Ser Trp Met Pro Thr Leu Glu Lys Val Cys Glu Glu
                1245                1250                1255

 tta agc cca gag tca aca cat cca gat ttc cga atg tgg cta acg agt     3903
 Leu Ser Pro Glu Ser Thr His Pro Asp Phe Arg Met Trp Leu Thr Ser
            1260                1265                1270
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tac cca tct cca aat ttc cct gtg tca gta ctg cag aat gga gtg aaa     3951
Tyr Pro Ser Pro Asn Phe Pro Val Ser Val Leu Gln Asn Gly Val Lys
       1275                1280                1285

atg acc aat gaa gca cca aaa ggt tta cgg gct aat atc att cga tca     3999
Met Thr Asn Glu Ala Pro Lys Gly Leu Arg Ala Asn Ile Ile Arg Ser
   1290                1295                1300

tac ctc atg gac ccg atc tct gat ccg gag ttc ttt ggc agc tgc aaa     4047
Tyr Leu Met Asp Pro Ile Ser Asp Pro Glu Phe Phe Gly Ser Cys Lys
1305                1310                1315                1320

aag cct gag gaa ttc aag aaa ttg ctt tat ggc ctg tgt ttc ttt cat     4095
Lys Pro Glu Glu Phe Lys Lys Leu Leu Tyr Gly Leu Cys Phe Phe His
               1325                1330                1335

gct ttg gta caa gaa aga cgg aaa ttt gga ccc cta ggg tgg aat att     4143
Ala Leu Val Gln Glu Arg Arg Lys Phe Gly Pro Leu Gly Trp Asn Ile
           1340                1345                1350

cct tat gag ttc aat gag aca gat ctg aga atc agc gta cag cag ctc     4191
Pro Tyr Glu Phe Asn Glu Thr Asp Leu Arg Ile Ser Val Gln Gln Leu
       1355                1360                1365

cac atg ttc ctg aac cag tat gag gaa ctg ccg tat gag gct ctg cgg     4239
His Met Phe Leu Asn Gln Tyr Glu Glu Leu Pro Tyr Glu Ala Leu Arg
   1370                1375                1380

tac atg act ggc gaa tgc aat tac gga ggt aga gtg acc gat gac tgg     4287
Tyr Met Thr Gly Glu Cys Asn Tyr Gly Gly Arg Val Thr Asp Asp Trp
1385                1390                1395                1400

gac cgg cgc acg ctg cgc agc att cta aac aaa ttc ttc aat ccc gaa     4335
Asp Arg Arg Thr Leu Arg Ser Ile Leu Asn Lys Phe Phe Asn Pro Glu
               1405                1410                1415

tta gtt gaa aat tca gac tat aag ttc gac tca agt ggc atc tat ttt     4383
Leu Val Glu Asn Ser Asp Tyr Lys Phe Asp Ser Ser Gly Ile Tyr Phe
           1420                1425                1430

gtt cct cct tct ggt gat cac aaa agc tac atc gaa tac aca aag act     4431
Val Pro Pro Ser Gly Asp His Lys Ser Tyr Ile Glu Tyr Thr Lys Thr
       1435                1440                1445

ctg cca ctg acc cca gca cca gaa atc ttt ggg atg aat gcc aat gca     4479
Leu Pro Leu Thr Pro Ala Pro Glu Ile Phe Gly Met Asn Ala Asn Ala
   1450                1455                1460

gat atc act aag gat cag tca gaa act cag ctg cta ttt gat aac att     4527
Asp Ile Thr Lys Asp Gln Ser Glu Thr Gln Leu Leu Phe Asp Asn Ile
1465                1470                1475                1480

ctt ctt aca cag tct cgt tca gca ggt gct ggt gca aaa tca tca gat     4575
Leu Leu Thr Gln Ser Arg Ser Ala Gly Ala Gly Ala Lys Ser Ser Asp
               1485                1490                1495
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Glu Val Val Asn Glu Val Ala Ser Asp Ile Leu Gly Lys Leu Pro Asn
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aac ttc gac atc gag gct gcc atg agg agg tac cca aca act tat act     4671
Asn Phe Asp Ile Glu Ala Ala Met Arg Arg Tyr Pro Thr Thr Tyr Thr
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cag agc atg aac act gta ctt gtc caa gag atg gga cgg ttc aat aag     4719
Gln Ser Met Asn Thr Val Leu Val Gln Glu Met Gly Arg Phe Asn Lys
   1530                1535                1540

tta ctg aag acc ata aga gat tcg tgc gta aat att caa aaa gca atc     4767
Leu Leu Lys Thr Ile Arg Asp Ser Cys Val Asn Ile Gln Lys Ala Ile
1545                1550                1555                1560

aag ggg ctt gca gtc atg tct aca gat ctt gaa gaa gtg gtt agc agc     4815
Lys Gly Leu Ala Val Met Ser Thr Asp Leu Glu Glu Val Val Ser Ser
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att ttg aat gtc aaa att cca gaa atg tgg atg ggt aaa tcc tac cca     4863
Ile Leu Asn Val Lys Ile Pro Glu Met Trp Met Gly Lys Ser Tyr Pro
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agc ctt aaa cca ctt ggc agc tat gtg aat gac ttc ctt gca aga cta     4911
Ser Leu Lys Pro Leu Gly Ser Tyr Val Asn Asp Phe Leu Ala Arg Leu
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aaa ttc ttg cag caa tgg tat gag gtt ggt cct cct cca gtc ttc tgg     4959
Lys Phe Leu Gln Gln Trp Tyr Glu Val Gly Pro Pro Pro Val Phe Trp
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ctt tct ggc ttc ttc ttc aca caa gcc ttc ctg acc ggt gcc cag cag     5007
Leu Ser Gly Phe Phe Phe Thr Gln Ala Phe Leu Thr Gly Ala Gln Gln
1625                1630                1635                1640

aac tac gcc agg aaa tac aca att cct att gat ctt ctt ggg ttt gac     5055
Asn Tyr Ala Arg Lys Tyr Thr Ile Pro Ile Asp Leu Leu Gly Phe Asp
               1645                1650                1655

tat gaa gtg atg gaa gac aaa gaa tac aag cat cct cct gag gat ggt     5103
Tyr Glu Val Met Glu Asp Lys Glu Tyr Lys His Pro Pro Glu Asp Gly
          1660                1665                1670

gtt ttc att cac gga tta ttt ctg gat gga gct tcc tgg aat aga aag     5151
Val Phe Ile His Gly Leu Phe Leu Asp Gly Ala Ser Trp Asn Arg Lys
      1675                1680                1685

atc aag aaa ctt gca gaa tcg cat ccc aaa att ctt tat gat aca gtg     5199
Ile Lys Lys Leu Ala Glu Ser His Pro Lys Ile Leu Tyr Asp Thr Val
   1690                1695                1700

cct gtg atg tgg cta aag ccc tgt aag agg gca gat ata cca aaa cgg     5247
Pro Val Met Trp Leu Lys Pro Cys Lys Arg Ala Asp Ile Pro Lys Arg
1705                1710                1715                1720

cca agt tat gtt gct cca ttg tat aag aca agt gag cgg aga gga gta     5295
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Pro Ser Tyr Val Ala Pro Leu Tyr Lys Thr Ser Glu Arg Arg Gly Val
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Leu Ser Thr Thr Gly His Ser Thr Asn Phe Val Ile Ala Met Thr Leu
            1740                1745                1750

ccc tct gac caa ccc aag gaa cac tgg att gga cga ggt gta gca ctg     5391
Pro Ser Asp Gln Pro Lys Glu His Trp Ile Gly Arg Gly Val Ala Leu
        1755                1760                1765

tta tgt caa ctt aat tca taa cc agaagacatc atttccttgt tcctatttct     5444
Leu Cys Gln Leu Asn Ser  *
    1770                1775

tgttggctgg ctgagtagag aaagcatatt attttactac ttaaaccttt ttttttgttt   5504

gtttaaatac atttgactaa agttataatt atgaatttac ttatgagcaa atgcagctaa   5564

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                               Met Ala Lys Ser Lys Asn His Thr Thr
                                 1               5

cac aac cag tcc cga aaa tgg cac aga aat ggt atc aag aaa ccc cga      161
His Asn Gln Ser Arg Lys Trp His Arg Asn Gly Ile Lys Lys Pro Arg
 10                  15                  20                  25

tca caa aga tac gaa tct ctt aag ggg gtg gac ccc aag ttc ctg agg      209
Ser Gln Arg Tyr Glu Ser Leu Lys Gly Val Asp Pro Lys Phe Leu Arg
                 30                  35                  40

aac atg cgc ttt gcc aag aag cac aac aaa aag ggc cta aag aag atg      257
Asn Met Arg Phe Ala Lys Lys His Asn Lys Lys Gly Leu Lys Lys Met
             45                  50                  55

cag gcc aac aat gcc aag gcc atg agt gca cgt gcc gag gct atc aag      305
Gln Ala Asn Asn Ala Lys Ala Met Ser Ala Arg Ala Glu Ala Ile Lys
         60                  65                  70
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gcc ctc gta aag ccc aag gag gtt aag ccc aag atc cca aag ggt gtc 353
Ala Leu Val Lys Pro Lys Glu Val Lys Pro Lys Ile Pro Lys Gly Val
75 80 85

agc cgc aag ctc gat cga ctt gcc tac att gcc cac ccc aag ctt ggg 401
Ser Arg Lys Leu Asp Arg Leu Ala Tyr Ile Ala His Pro Lys Leu Gly
90 95 100 105

aag cgt gct cgt gcc cgt att gcc aag ggg ctc agg ctg tgc cgg cca 449
Lys Arg Ala Arg Ala Arg Ile Ala Lys Gly Leu Arg Leu Cys Arg Pro
110 115 120

aag gcc aag gcc aag gcc aag gcc aag gcc aag gcc aag gcc cag gcc 497
Lys Ala Lys Ala Lys Ala Lys Ala Lys Ala Lys Ala Lys Ala Gln Ala
125 130 135

aag gat caa acc aag gcc cag gct gca gcc cca gct tca gtt cca gct 545
Lys Asp Gln Thr Lys Ala Gln Ala Ala Ala Pro Ala Ser Val Pro Ala
140 145 150

cag gct ccc aaa cgt acc cag gcc cct aca aag gct tca gag tag ata 593
Gln Ala Pro Lys Arg Thr Gln Ala Pro Thr Lys Ala Ser Glu *
155 160 165

tctctgccaa catgaggaca gaaggactgg tgcgaccccc cacccccgcc cctgggctac 653

catctgcatg gggctggggt cctcctgtgc tatttgtaca aataaacctg aggcaggaaa 713

a 714

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Met Ala Leu Pro Ala Leu Gly Leu Asp Pro Trp Ser Leu Leu Gly Leu
1 5 10 15

ttc ctc ttc caa ctg ctt cag ctg ctg ctg ccg acg acg acc gcg ggg 96
Phe Leu Phe Gln Leu Leu Gln Leu Leu Leu Pro Thr Thr Thr Ala Gly
20 25 30

gga ggc ggg cag ggg ccc atg ccc agg gtc aga tac tat gca ggg gat 144
Gly Gly Gly Gln Gly Pro Met Pro Arg Val Arg Tyr Tyr Ala Gly Asp
35 40 45

gaa cgt agg gca ctt agc ttc ttc cac cag aag ggc ctc cag gat ttt 192

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Glu Arg Arg Ala Leu Ser Phe Phe His Gln Lys Gly Leu Gln Asp Phe
     50                  55                  60

gac act ctg ctc ctg agt ggt gat gga aat act ctc tac gtg ggg gct      240
Asp Thr Leu Leu Leu Ser Gly Asp Gly Asn Thr Leu Tyr Val Gly Ala
 65                  70                  75                  80

cga gaa gcc att ctg gcc ttg gat atc cag gat cca ggg gtc ccc agg      288
Arg Glu Ala Ile Leu Ala Leu Asp Ile Gln Asp Pro Gly Val Pro Arg
                85                  90                  95

cta aag aac atg ata ccg tgg cca gcc agt gac aga aaa aag agt gaa      336
Leu Lys Asn Met Ile Pro Trp Pro Ala Ser Asp Arg Lys Lys Ser Glu
            100                 105                 110

tgt gcc ttt aag aag aag agc aat gag aca cag tgt ttc aac ttc atc      384
Cys Ala Phe Lys Lys Lys Ser Asn Glu Thr Gln Cys Phe Asn Phe Ile
        115                 120                 125

cgt gtc ctg gtt tct tac aat gtc acc cat ctc tac acc tgc ggc acc      432
Arg Val Leu Val Ser Tyr Asn Val Thr His Leu Tyr Thr Cys Gly Thr
    130                 135                 140

ttc gcc ttc agc cct gct tgt acc ttc att gaa ctt caa gat tcc tac      480
Phe Ala Phe Ser Pro Ala Cys Thr Phe Ile Glu Leu Gln Asp Ser Tyr
145                 150                 155                 160

ctg ttg ccc atc tcg gag gac aag gtc atg gag gga aaa ggc caa agc      528
Leu Leu Pro Ile Ser Glu Asp Lys Val Met Glu Gly Lys Gly Gln Ser
                165                 170                 175

ccc ttt gac ccc gct cac aag cat acg gct gtc ttg gtg gat ggg atg      576
Pro Phe Asp Pro Ala His Lys His Thr Ala Val Leu Val Asp Gly Met
            180                 185                 190

ctc tat tct ggt act atg aac aac ttc ctg ggc agt gag ccc atc ctg      624
Leu Tyr Ser Gly Thr Met Asn Asn Phe Leu Gly Ser Glu Pro Ile Leu
        195                 200                 205

atg cgc aca ctg gga tcc cag cct gtc ctc aag acc gac aac ttc ctc      672
Met Arg Thr Leu Gly Ser Gln Pro Val Leu Lys Thr Asp Asn Phe Leu
    210                 215                 220

cgc tgg ctg cat cat gac gcc tcc ttt gtg gca gcc atc cct tcg acc      720
Arg Trp Leu His His Asp Ala Ser Phe Val Ala Ala Ile Pro Ser Thr
225                 230                 235                 240

cag gtc gtc tac ttc ttc ttc gag gag aca gcc agc gag ttt gac ttc      768
Gln Val Val Tyr Phe Phe Phe Glu Glu Thr Ala Ser Glu Phe Asp Phe
                245                 250                 255

ttt gag agg ctc cac aca tcg cgg gtg gct aga gtc tgc aag aat gac      816
Phe Glu Arg Leu His Thr Ser Arg Val Ala Arg Val Cys Lys Asn Asp
            260                 265                 270

gtg ggc ggc gaa aag ctg ctg cag aag aag tgg acc acc ttc ctg aag      864
Val Gly Gly Glu Lys Leu Leu Gln Lys Lys Trp Thr Thr Phe Leu Lys
```

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        275                 280                 285

gcc cag ctg ctc tgc acc cag ccg ggg cag ctg ccc ttc aac gtc atc      912
Ala Gln Leu Leu Cys Thr Gln Pro Gly Gln Leu Pro Phe Asn Val Ile
    290                 295                 300

cgc cac gcg gtc ctg ctc ccc gcc gat tct ccc aca gct ccc cac atc      960
Arg His Ala Val Leu Leu Pro Ala Asp Ser Pro Thr Ala Pro His Ile
305                 310                 315                 320

tac gca gtc ttc acc tcc cag tgg cag gtt ggc ggg acc agg agc tct     1008
Tyr Ala Val Phe Thr Ser Gln Trp Gln Val Gly Gly Thr Arg Ser Ser
                325                 330                 335

gcg gtt tgt gcc ttc tct ctc ttg gac att gaa cgt gtc ttt aag ggg     1056
Ala Val Cys Ala Phe Ser Leu Leu Asp Ile Glu Arg Val Phe Lys Gly
            340                 345                 350

aaa tac aaa gag ttg aac aaa gaa act tca cgc tgg act act tat agg     1104
Lys Tyr Lys Glu Leu Asn Lys Glu Thr Ser Arg Trp Thr Thr Tyr Arg
        355                 360                 365

ggc cct gag acc aac ccc cgg cca ggc agt tgc tca gtg ggc ccc tcc     1152
Gly Pro Glu Thr Asn Pro Arg Pro Gly Ser Cys Ser Val Gly Pro Ser
    370                 375                 380

tct gat aag gcc ctg acc ttc atg aag gac cat ttc ctg atg gat gag     1200
Ser Asp Lys Ala Leu Thr Phe Met Lys Asp His Phe Leu Met Asp Glu
385                 390                 395                 400

caa gtg gtg ggg acg ccc ctg ctg gtg aaa tct ggc gtg gag tat aca     1248
Gln Val Val Gly Thr Pro Leu Leu Val Lys Ser Gly Val Glu Tyr Thr
                405                 410                 415

cgg ctt gca gtg gag aca gcc cag ggc ctt gat ggg cac agc cat ctt     1296
Arg Leu Ala Val Glu Thr Ala Gln Gly Leu Asp Gly His Ser His Leu
            420                 425                 430

gtc atg tac ctg gga acc acc aca ggg tcg ctc cac aag gct gtg gta     1344
Val Met Tyr Leu Gly Thr Thr Thr Gly Ser Leu His Lys Ala Val Val
        435                 440                 445

agt ggg gac agc agt gct cat ctg gtg gaa gag att cag ctg ttc cct     1392
Ser Gly Asp Ser Ser Ala His Leu Val Glu Glu Ile Gln Leu Phe Pro
    450                 455                 460

gac cct gaa cct gtt cgc aac ctg cag ctg gcc ccc acc cag ggt gca     1440
Asp Pro Glu Pro Val Arg Asn Leu Gln Leu Ala Pro Thr Gln Gly Ala
465                 470                 475                 480

gtg ttt gta ggc ttc tca gga ggt gtc tgg agg gtg ccc cga gcc aac     1488
Val Phe Val Gly Phe Ser Gly Gly Val Trp Arg Val Pro Arg Ala Asn
                485                 490                 495

tgt agt gtc tat gag agc tgt gtg gac tgt gtc ctt gcc cgg gac ccc     1536
Cys Ser Val Tyr Glu Ser Cys Val Asp Cys Val Leu Ala Arg Asp Pro
            500                 505                 510
```

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cac tgt gcc tgg gac cct gag tcc cga acc tgt tgc ctc ctg tct gcc      1584
His Cys Ala Trp Asp Pro Glu Ser Arg Thr Cys Cys Leu Leu Ser Ala
        515                 520                 525

ccc aac ctg aac tcc tgg aag cag gac atg gag cgg ggg aac cca gag      1632
Pro Asn Leu Asn Ser Trp Lys Gln Asp Met Glu Arg Gly Asn Pro Glu
    530                 535                 540

tgg gca tgt gcc agt ggc ccc atg agc agg agc ctt cgg cct cag agc      1680
Trp Ala Cys Ala Ser Gly Pro Met Ser Arg Ser Leu Arg Pro Gln Ser
545                 550                 555                 560

cgc ccg caa atc att aaa gaa gtc ctg gct gtc cct aac tcc atc ctg      1728
Arg Pro Gln Ile Ile Lys Glu Val Leu Ala Val Pro Asn Ser Ile Leu
                565                 570                 575

gag ctc ccc tgc ccc cac ctg tca gcc ttg gcc tct tat tat tgg agt      1776
Glu Leu Pro Cys Pro His Leu Ser Ala Leu Ala Ser Tyr Tyr Trp Ser
            580                 585                 590

cat ggc cca gca gca gtc cca gaa gcc tct tcc act gtc tac aat ggc      1824
His Gly Pro Ala Ala Val Pro Glu Ala Ser Ser Thr Val Tyr Asn Gly
        595                 600                 605

tcc ctc ttg ctg ata gtg cag gat gga gtt ggg ggt ctc tac cag tgc      1872
Ser Leu Leu Leu Ile Val Gln Asp Gly Val Gly Gly Leu Tyr Gln Cys
    610                 615                 620

tgg gca act gag aat ggc ttt tca tac cct gtg atc tcc tac tgg gtg      1920
Trp Ala Thr Glu Asn Gly Phe Ser Tyr Pro Val Ile Ser Tyr Trp Val
625                 630                 635                 640

gac agc cag gac cag acc ctg gcc ctg gat cct gaa ctg gca ggc atc      1968
Asp Ser Gln Asp Gln Thr Leu Ala Leu Asp Pro Glu Leu Ala Gly Ile
                645                 650                 655

ccc cgg gag cat gtg aag gtc ccg ttg acc agg gtc agt ggt ggg gcc      2016
Pro Arg Glu His Val Lys Val Pro Leu Thr Arg Val Ser Gly Gly Ala
            660                 665                 670

gcc ctg gct gcc cag cag tcc tac tgg ccc cac ttt gtc act gtc act      2064
Ala Leu Ala Ala Gln Gln Ser Tyr Trp Pro His Phe Val Thr Val Thr
        675                 680                 685

gtc ctc ttt gcc tta gtg ctt tca gga gcc ctc atc atc ctc gtg gcc      2112
Val Leu Phe Ala Leu Val Leu Ser Gly Ala Leu Ile Ile Leu Val Ala
    690                 695                 700

tcc cca ttg aga gca ctc cgg gct cgg ggc aag gtt cag ggc tgt gag      2160
Ser Pro Leu Arg Ala Leu Arg Ala Arg Gly Lys Val Gln Gly Cys Glu
705                 710                 715                 720

acc ctg cgc cct ggg gag aag gcc ccg tta agc aga gag caa cac ctc      2208
Thr Leu Arg Pro Gly Glu Lys Ala Pro Leu Ser Arg Glu Gln His Leu
                725                 730                 735
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cag tct ccc aag gaa tgc agg acc tct gcc agt gat gtg gac gct gac     2256
Gln Ser Pro Lys Glu Cys Arg Thr Ser Ala Ser Asp Val Asp Ala Asp
            740                 745                 750

aac aac tgc cta ggc act gag gta gct taa a ctctaggcac aggccggggc     2307
Asn Asn Cys Leu Gly Thr Glu Val Ala  *
        755                 760

tgcggtgcag gcacctggcc atgctggctg ggcggcccaa gcacagccct gactaggatg   2367

acagcagcac aaaagaccac ctttctcccc tgagaggagc ttctgctact ctgcatcact   2427

gatgacactc agcagggtga tgcacagcag tctgcctccc ctatgggact cccttctacc   2487

aagcacatga gctctctaac agggtggggg ctacccccag acctgctcct acactgatat   2547

tgaagaacct ggagaggatc cttcagttct ggccattcca gggaccctcc agaaacacag   2607

tgtttcaaga gaccctaaaa aacctgcctg tcccaggacc ctatggtaat gaacaccaaa   2667

catctaaaca atcatatgct aacatgccac tcctggaaac tccactctga agctgccgct   2727

ttggacacca acactccctt ctcccagggt catgcaggga tctgctccct cctgcttccc   2787

ttaccagtcg tgcaccgctg actcccagga agtcttccct gaagtctgac caccttttctt   2847

cttgcttcag ttggggcaga ctctgatccc ttctgccctg gcagaatggc aggggtaatc   2907

tgagccttct tcactccttt accctagctg acccccttcac ctctcccccc ccctttttcct   2967

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cctgaaggtc ccgaaagcag cccaagtccg gccggggccg tggagaaggc ggcgggcgca    180
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ggcctggagc cctcgagcaa gaaaaagccg ccttcgcctc gccccgggtc cccgcgcgtg     240

ccgccgctca gcctgggcta cggggtctgc ccccgagccgc cgtcaccggg ccctgccttg    300

gtcaagctgc cccggaatgg cgaggcgccc ggggctgagc ctgcgcccag cgcctgggcg     360

cccatggagc tgcaggtaga tgtgcgcgtg aagcccgtgg gcgcggccgg tggcagcagc     420

acgccatcgc ccaggccctc cacgcgcttc ctcaaggtgc cggtgcccga gtcccctgcc     480

ttctcccgcc acgcggaccc ggcgcaccag ctcctgctgc gcgcaccatc ccagggcggc     540

acgtggggcc gccgctcgcc gctggctgca gcccggacgg agagcggctg cgacgcagag     600

ggccgggcca gccccgcgga aggaagcgcc ggctccccgg gctcccccac gtgctgccgc     660

tgcaaggagc tggggctgga gaaggaggat gcggcgctgt tgccccgcgc ggggttggac     720

ggcgacgaga agctgccccg ggccgtaacg cttacggggc tacccatgta cgtgaagtcc     780

ctgtactggg ccctggcgtt c  atg gct gtg ctc ctg gca gtc tct ggg gtt      831
                         Met Ala Val Leu Leu Ala Val Ser Gly Val
                          1               5                  10

gtc att gtg gtc ctg gcc tca aga gca gga gcc aga tgc cag cag tgc       879
Val Ile Val Val Leu Ala Ser Arg Ala Gly Ala Arg Cys Gln Gln Cys
                15                  20                  25

ccc cca ggc tgg gtg ttg tcc gag gag cac tgt tac tac ttc tct gca       927
Pro Pro Gly Trp Val Leu Ser Glu Glu His Cys Tyr Tyr Phe Ser Ala
            30                  35                  40

gaa gcg cag gcc tgg gaa gcc agc cag gct ttc tgc tca gcc tac cac       975
Glu Ala Gln Ala Trp Glu Ala Ser Gln Ala Phe Cys Ser Ala Tyr His
        45                  50                  55

gct acc ctc ccc ctg cta agc cac acc cag gac ttc ctg ggc aga tac      1023
Ala Thr Leu Pro Leu Leu Ser His Thr Gln Asp Phe Leu Gly Arg Tyr
    60                  65                  70

cca gtc tcc agg cac tcc tgg gtg ggg gcc tgg cga ggc ccc cag ggc      1071
Pro Val Ser Arg His Ser Trp Val Gly Ala Trp Arg Gly Pro Gln Gly
 75                  80                  85                  90

tgg cac tgg atc gac gag gcc cca ctc ccg ccc cag cta ctc cct gag      1119
Trp His Trp Ile Asp Glu Ala Pro Leu Pro Pro Gln Leu Leu Pro Glu
                95                 100                 105

gac ggc gag gac aat ctg gat atc aac tgt ggg gcc ctg gag gaa ggc      1167
Asp Gly Glu Asp Asn Leu Asp Ile Asn Cys Gly Ala Leu Glu Glu Gly
            110                 115                 120

acg ctg gtg gct gca aac tgc agc act cca aga ccc tgg gtc tgt gcc      1215
Thr Leu Val Ala Ala Asn Cys Ser Thr Pro Arg Pro Trp Val Cys Ala
        125                 130                 135
```

```
aag ggg acc cag tga tctgggctct gcctggtcct cagcctgcca ggcagatgca     1270
Lys Gly Thr Gln  *
    140

gcacccccta caggggaggc cagttgagag cttgggcagc ctcttcctgg acccagttat   1330

ccaggtcttc atgctctgct caaggggggcc acatgagcga gcctaggagc tggacttcaa   1390

cccaggaaga tgcatccgag ggaaaggaga ttttctatgg cctcaggcct gagtgccaat   1450

attagtctcc agcttctgtg gatgatcggt ttgatgacat tgngatggtt gtttagcatt   1510

tctgtgcctt ggtttcatta naatgacaat ttccccctaa aagaaaa                 1557
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